Chem 123 Fall 2011 Course Information/Syllabus

Instructor: Dr. Kristi Kincaid (DBH 242; kincaid@rice.edu)

Office hours: W/Th 11-12

Classroom coordinator: Naomi Duval (DBH 243, nduval@rice.edu)

Course Philosophy and Aims

This course is part of a two semester sequence designed to enhance the material from the general chemistry lecture course and prepare you to enter a scientific research environment. This first semester is focused on teaching the student to think critically as a scientist, and how to develop an experimental approach to chemistry. Although the student will carry out chemical experiments, the emphasis on learning laboratory techniques has been specifically delayed to the second semester in order to enhance this development. The skills (both mental and physical) that you will learn in these courses are applicable to any scientific discipline that you may pursue.

Location and time:

There are ten 2 hour lab sections each week. Each will meet in DBH214 (the computer lab). For some sessions, we will move between the computer lab and room 200, the teaching lab.

Course Requirements:

Attendance is mandatory for **every** lab session. Punctuality is also mandatory; points will be deducted from your grade for tardiness. Extremely late students (>15 minutes) may not be admitted to lab.

At the beginning of the semester, you will need to sign a form on OwlSpace https://owlspace-ccm.rice.edu/portal *(under tests & quizzes)* that you have read and agree to abide by the lab safety rules. You are required to wear closed-toe shoes, safety glasses, and a lab coat when working in room 200. The Chemistry Graduate Student Association (CGSA) will be selling lab coats for $20 (cash or check only, NO CREDIT CARDS); time and location will be announced in class. Safety glasses are provided for you in the lab.

The lab manual will be posted on OwlSpace. Prior to lab, you will need to download and read the experiment for the week (including any background reading), and print out the lab procedure and report form. You will also need to complete a pre-lab quiz on OwlSpace prior to

coming to lab. You should come to lab prepared to discuss the lab in-depth and be able to make predictions about any outcomes.

Lab Citizenship:

Anyone who pursues a career in the sciences will work within a group of other researchers in one way or another (unless you are extremely rich and extremely eccentric). Because of this, it is important to learn how to be a good lab citizen. Good lab citizenship generally can be summed up by the golden rule: treat others as you would like to be treated. Specifically, some key components are:

- ***Respect*** *for others in conversation and space use*
- ***Tidiness*** *in common use areas*
- ***Conscientious*** *use of shared reagents*
- ***Openness*** *to scientific discussion with labmates*
- *Leaving your work area in a clean and safe state*

Lab Reports.

During lab, you will record your data on the report form, which you can also use for your final report. The specific format and requirements for the report will be explained in the individual labs. Sometimes it will be appropriate to attach additional pages to your report, such as a data table or a graph. Reports will be due to your TA at the beginning of class the following week.

Honor policy: Lab reports fall under the scope of Rice's honor code. Discussion is an important part of the scientific process, and you are encouraged to discuss the lab with your partner, TAs, and other classmates. However, you must complete your own report, including all calculations and conclusions; and remember that copying is not the same as discussing.

Grading:

There are a total of 250 points for Chem 123. These will be added to the points from Chem 121 (750 possible) to give your final grade for both courses (out of a total of 1000 points). The 250 possible points are divided amongst 11 lab reports and the pre-lab quizzes. The point assignment will be indicated on the lab reports/quiz. Points can (and will!) also be added or deducted to your lab report based on lab citizenship (see above). Points will be deducted for tardiness to class. Late reports will be docked points for each day late (3pts/day). Reports will not be accepted more than one week late.

Regrading:

If you think you were graded incorrectly, you may submit your report for a regrade. Please keep in mind that it is worth neither your nor my time to regrade a lab report for 1 or 2 points, and unless the error is one of simple miscalculation of the total points, it is unlikely that your request will be successful. Submit all regrade requests to Naomi Duval; do NOT submit a regrade request to your TA. You have 2 days after a lab is returned to you to submit a regrade request. To ensure proper record keeping, it is imperative that you do NOT write on your original lab report; instead, submit a separate sheet of paper with your reasons for requesting a regrade.

Missed labs:

For approved university commitments, contact Dr. Kincaid AND your TA at least one week in advance of your absence so that you can reschedule to attend a different section that same week. For unscheduled absences, such as severe illness, contact Dr. Kincaid AND your TA when you realize you will not be able to attend. If you are in a true emergency, do not worry about contacting us right away, just get to the hospital while there is still a chance they can reattach your arm.

Your lab report will be due at the beginning of your next regularly scheduled lab.

Completion of every lab is mandatory for this course. If you fail to make arrangements for a missed lab, your combined grade for Chem121/123 will be automatically lowered by a third of a letter grade (e.g. A- to B+). This is in addition to the points lost by not doing the lab report.

Safety:

Lab safety is taken very seriously at Rice. As mentioned above, closed-toe shoes, safety glasses, and lab coats are required when we are in room 200. Even if you feel that you aren't doing anything dangerous, it is important to always follow safety rules in the lab. This is because lab safety procedures are designed to protect you not only from your own actions, but also from those around you and those that have been in the lab before you. You may be clean and careful, but the person next to you may not be, or the person who used the bench prior to you may have left an acid spill there.

Cubbies are provided to store your bags and backpacks; they are not to be placed on the floor or on the bench.

There will be **absolutely no eating or drinking** allowed in the lab. Period. It is also highly recommended that you wash your hands upon leaving the lab.

Phones: phones, ipods, etc. are to be silenced or turned off, and left in your bag.

Students under 18:

Your parents or legal guardian are required to sign a "Release and Hold Harmless Agreement" before you can work in the lab. Download this form from OwlSpace https://owlspace-ccm.rice.edu/access/content/group/CHEM-123-F11/UnderAge18-Release-HoldHarmlessAgreement.pdf and turn in a signed paper copy to Naomi Duval. Your parent may also fax this form to 713-348-3479.

Special Needs:

Any student with a disability requiring accommodations in this class is encouraged to contact the instructor during the first two weeks of class. All discussions will remain confidential. Students should also contact the Disabled Student Services Office in the Ley Student Center.

Weekly lab schedule:

Generally, a given lab will be performed Mon-Fri of the same week. However, because of holidays, some weeks there will be a shift to Tues-Mon or Wed-Tues. However, every section will do all the labs in the same order.

Fall 2011 Schedule:

Lab #	Topic	Dates
1	Lab Safety and Moles	8/29-9/2
2	Measurement, Uncertainty, and Error	9/6-9/12
3	Stoichiometry	9/13-9/19
4	Periodic trends	9/26-9/30
5	Molecular Structure Part 1: Computer Modeling and VSEPR	10/3-10/7
6	Molecular Structure Part 2: Isomerism and symmetry	10/12-10/18
7	Bonding	10/24-10/28
8	Solid State Structure	10/31-11/4
9	Thermochemistry	11/7-11/11
10	Critical Analysis of Research in the Literature	11/14-11/18
11	Lab techniques	11/28-12/2